Chapter XV
Distributed Knowledge Management in Organizations

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ABSTRACT

A framework to capture and manage distributed knowledge can address distributed knowledge management from creation to facilitation. Knowledge generation and dissipation needs to be embedded in corporate processes. These processes need to have an underlying principle that eliminates the obstacles of collecting multiple knowledge perspectives within complex organizations. Moreover, extrinsic motivators, social-psychological forces, and organizational climate factors are believed to influence knowledge sharing. This study discusses a framework that provides a synergized view to collect, share, and manage distributed corporate knowledge using organizational knowledge models and technology knowledge models. Structural, cognitive, relational, and technological factors derived from a synthesized literature review aid to formulate this framework. Using this framework, the role of peer-to-peer networks on distributed knowledge management in organizations is examined.

INTRODUCTION

Whirlpool Corporation has set a clear expectation for everyone in its development group to devote 20% of their jobs to being consultants to those in other areas of development and deployment. To encourage this type of culture, the company has its staff focus on deliverables and further collaborating with others who may have insights and thus institutes a culture of knowledge sharing (Penzias, 2005). How can this knowledge be managed and distributed inside an organization? Distributed knowledge management (DKM) is important in today's knowledge-based economy (Desouza & Evaristo, 2004; Ezingeard, Leigh, & Chandler-Wilde, 2000; Pedersen & Larsen, 2001;

Spangler & Peters, 2001; Un & Cuervo-Cazurra, 2004). The concept of the management of intellectual capital is well established in the academic arena (Grant, 1996; Lynn, 1999; Masoulas, 1998; Nonaka, 1994; Templeton, Lewis, & Snyder, 2002). Firm-specific knowledge that is a part of the intellectual capital is difficult for competitors to imitate even when employees are hired away since that knowledge is specific to the original work environment (Hatch & Dyer, 2004). However, the firm-specific human capital of knowledge can be retained by using knowledge management systems (KMS). Knowledge management is of paramount importance to organizations and is emerging as a powerful source of competitive advantage (Hahn & Subramani, 2000). Scholars have recognized interorganizational knowledge transfer and knowledge flows and their link with competitive success (Gupta & Govindarajan, 2000; Inkpen & Tsang, 2005).

One of the reasons why multinational corporations exist is because of their ability to transfer and exploit knowledge more efficiently and effectively (Gupta & Govindarajan, 2000). Knowledge flows in such firms provide them the ability to be flexible, to respond more quickly to changing market conditions, to be more innovative, and to improve decision making and productivity (Alavi & Leidner, 1999). The goal of such organizations is to be aware of the existence and management of collective and individual knowledge (Bennet & Bennet, 2003). KM incorporates the organization of corporate knowledge according to a single, supposedly shared and objective classification. However, most of the KMS do not have this vision of knowledge (Bonifacio, Bouquet, & Traverso, 2002). Moreover, in the process of knowledge extraction and refinement, all subjective and contextual aspects of knowledge are eliminated (Bonifacio, Bouquet, Mameli, & Nori, 2003). DKM is an approach to KM based on the principle that multiplicity and heterogeneity of perspectives within complex organizations should not be viewed as obstacles to knowledge exploitation, but rather as an opportunity that can foster innovation and creativity (Bonifacio et al., 2002). DKM is a distinct and explicit process that attempts to leverage various perspectives of organizational knowledge into shared institutional capital. While DKM is a process and a strategy, KMS is an advanced information technology tool that is essential to implement the knowledge management process and strategy.

Literature on KM may be broadly classified into four dimensions that include structural, cognitive, and relational dimensions in management journals (Inkpen & Tsang, 2005; Rulke & Galaskiewicz, 2000), and the technology solutions dimension in information systems research (Hahn & Subramani, 2000; Lee & Choi, 2003). The KM enablers that include social and technical perspectives were mapped to a knowledge creation process (Nonaka, 1994) to initiate an integrated view of KM (Lee & Choi). This integrated model discusses only the knowledge creation process. However, KM is more than just knowledge creation. In general, KM is the creation, representation, storage, dissemination, transformation, application, maintenance, and facilitation of distributed organizational knowledge (Alavi & Leidner, 2001; Schultze & Leidner, 2002). In DKM, knowledge discovery, knowledge transfer, and knowledge facilitation are as important as knowledge creation (Briggs, De Vreede, Nunamaker, & Sprague, 2002; Grover & Davenport, 2001). The literature lacks a general framework that captures all these facets of DKM to represent a unified model of DKM. Such a framework is needed for academicians to further research distributed knowledge systems and for practitioners to understand the implications of DKM implementations.

A framework for DKM using structural, cognitive, relational, and technology dimensions has been proposed (Vaidyanathan, 2006). The framework is based on a balanced view of organizational managerial, social, cognitive, and technological facets of DKM. The next section defines DKM and provides the background